

**ABSTRACT**

A battery comprises a substrate having a cathode with a lower surface contacting the substrate and an opposing upper surface. A cathode current collector comprises conducting lines that contact the upper surface of the cathode. An electrolyte at least partially extends through the cathode current collector and contacts the cathode. An anode contacts the electrolyte, and optionally, an anode current collector contacts the anode. Also, because the cathode is formed on the substrate before the cathode current collector, the cathode current collector advantageously does not have to be fabricated out of a metal that is capable of withstanding further processing of the cathode, such as annealing of the cathode.

PROCESSED IMAGE